The Meade® ReadiView™ Microscope

A Portable Window to the Microscopic Universe

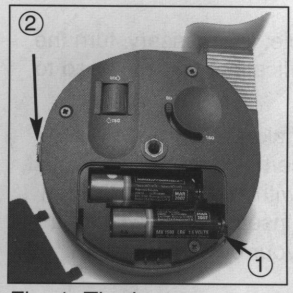


Fig. 1: The battery compartment.

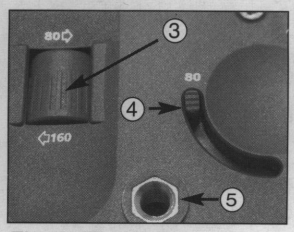


Fig. 2: The focus and magnification controls.

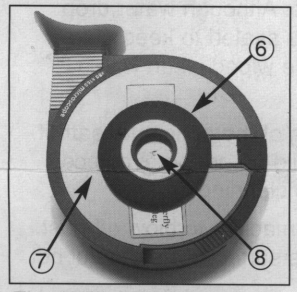


Fig. 3: The specimen or viewing stage.

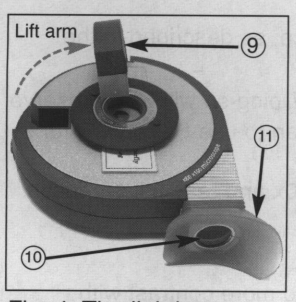


Fig. 4: The lighting arm and the eyepiece.

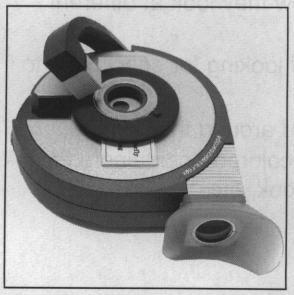


Fig. 5: The lighting arm set at an angle. Compare with Fig. 4.

Can't Wait to Get Started?

We recommend that you carefully read these instructions to become familiar with the operation of ReadiView. But if you can't wait to use ReadiView for the first time, follow these Quick-Start Instructions:

- Install two AA-size batteries into the ReadiView battery compartment (**1, Fig. 1**). Use care to insert the batteries in the orientation indicated by the illustration in the battery holder.
- Note the locations of the focus wheel (**3, Fig. 2**), the magnification changer (**4, Fig. 2**) and the light switch (**2, Fig. 1**, not visible, on the side of the microscope).
- Set the magnification changer (**4, Fig. 2**) to 80x.
- Turn ReadiView over.
- Place the prepared slide over the center hole (**8, Fig. 3**) on the specimen stage (**7, Fig. 3**).
- Place the magnetic holder (**6, Fig. 3**) over the slide to secure it.
- Lift the lighting arm to a full vertical position (**9, Fig. 4**).
- Slide the light switch (**2, Fig. 1**) to the right to turn on the light.
- Look through the eyepiece (**10, Fig. 4**) and the specimen should be visible. If necessary, turn the focus wheel (**3, Fig. 2**) until the image is sharply focused.
- Move the slide about above the center hole (**8, Fig. 3**) in the specimen stage to see more of the specimen.

Introducing ReadiView

ReadiView is a radical new microscope design. Designed for portability and ease of use, ReadiView is highly versatile and can fulfill a wide range of applications. ReadiView provides two magnification levels, 80x and 160x. "X" stands for *magnification* or *power*. This means that objects viewed through ReadiView are 80 or 160 times larger than they appear to the naked eye. The eyepiece may be removed (just gently pull from the body of the microscope) and be used as a 10x viewer.

ReadiView has a lighting arm which conveniently folds down and out of the way for storage. Power for the lighting arm is provided by two user-supplied AA-size batteries. Included with with kit is a magnetic holder to secure your slides or specimens in place, plus two slides: one prepared with a specimen and one left blank, so you can prepare your own specimens.

How to View an Object

Insert Batteries: Use care to insert the batteries in the orientation indicated by the illustration in the battery holder. The batteries will provide about 7 hours of continuous lighting for the microscope. See **Fig. 1**.

> ***Note:*** *Follow battery manufacturer's precautions. Do not install batteries backwards or mix new and old batteries. Do not mix battery types. If these precautions are not followed, batteries may explode, catch fire or leak. Improperly installed batteries void your warranty. If you are not planning to use ReadiView for a long period of time, remove the batteries from the compartment.*

Set Magnification: Set the magnification level (**4, Fig. 2**) to 80x. Begin observing by using the lower magnification level first. Don't assume that higher magnification will always produce the best image for viewing. Experiment with the magnification levels and see which level produces the best image for each slide. Notice that the view is upside down and reversed left-to-right. This means if you wish to view the left side of the slide, move the slide to the right. If you wish to view the top, move the slide down. And so forth.

Turn on the light: The light switch is located on the side of the microscope (**2, Fig. 1**). Slide the switch to the right to turn on.

Mount on tripod (optional step): If you have a tripod that accepts a universal mounting bush (**5, Fig, 2**), you can mount ReadiView. Tighten to a firm feel; do not overtighten.

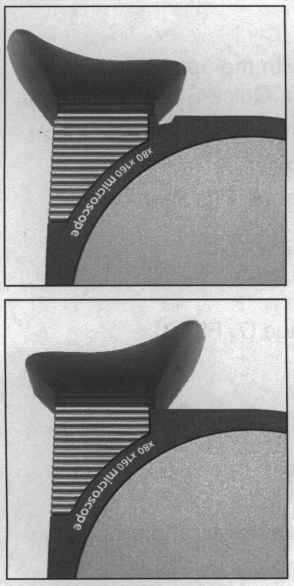
Position slide: Turn ReadiView over. Place the prepared slide or a slide or object that you have prepared over the center hole of the specimen stage (**8, Fig. 3**). Place the magnetic holder (**6, Fig. 2**) over the slide or object to secure it in place.

> ***Note:*** *Keep the magnetic holder away from electronic equipment, computer disks and video tapes as a magnet can disrupt electronics and erase data from memory media and tapes.*

Lift Arm: Lift the lighting arm to a full vertical position. See **Fig. 4**. After viewing your specimen, move the lighting arm halfway back down so it shines through the specimen at an angle. See **Fig. 5**.

Some images benefit from light coming in at angle. You can create interesting contrast in some images you view. For example, view a drop of pond water with the lighting arm angled. The micro-organisms in the drop of water require angled lighting to produce contrast with the dark background.

Use the sun to illuminate your specimens. Turn off the light and fold the lighting arm out of the way when you are outside. Daylight will illuminate your specimens with natural color.



Figs. 6a and 6b: Adjust the eyecup for your right or left eye. The bottom image shows the eyecup arranged for viewers who typically view through an eyepiece using their left eyes.

Remember to turn off the lighting arm when you are through observing (slide the light switch to the left to turn off) to conserve the batteries.

View Specimen: Look through the eyepiece and the specimen should be visible. If necessary, turn the focus wheel (**3, Fig. 2**) until the image is sharply focused. If you change magnification, you will need to refocus. Move the slide about to see more of the specimen.

Start Observing: ReadiView is easy to carry about and the magnetic holder makes it simple to place objects or slides on the specimen stage for observing. Examine a piece of fingernail, bird feathers, dust, parts of a plant, different types of soil, and pieces of food. Compare your hair with strands of hair from members of your family and also with your pet's hair. Check out various small insects, a snowflake, a drop of rain water.....the amount of objects you can observe is only limited by your own imagination.

Are you Right-Eyed or Left-Eyed?
Most people have a "dominant eye." What this means is that people typically use only one eye or the other when looking through an eyepiece. ReadiView can accommodate either eye. The rubber eyecup comes attached for right eye viewers, but if your left eye is dominant, pull to remove the eyecup, rotate it 180° and slide it back over the eyepiece. See **Figs. 6a** and **6b**.

Want to See Crystals?
Put a few ounces of hot (but not boiling) water into a clean cup. Slowly add salt to the water, until the salt will no longer dissolve. Stir the solution.

Place a drop or two of the solution on a clean slide and allow it to dry. A white powdery substance will dry on the slide. Place the slide on the specimen stage and check out what it looks like in the eyepiece. Make sure you thoroughly rinse out the cup when you're finished.

Keep It Clean
ReadiView is a precision optical instrument and is designed to be used outside. Although water drop slides may spill on the viewing area, ReadiView (although not water-proofed) is sealed to keep out a certain amount of spillage from entering the specimen area. The casing may be wiped clean with a damp cloth and the stage is resistant to most cleaning solvents.

The viewing glass in the center of the stage is sealed to prevent contamination of the optics beneath it. Inspect the lens from time to time for dirt and liquid build up. Dirt also may build up on the eyepiece. Remove the eyepiece from the microscope and also remove the eyecup when cleaning.

Use a camel's hair brush to brush off or an ear syringe (available in most pharmacies) to blow off dust. Only use a lens cleaning tissue or cloth if you need to wipe off any of the glass surfaces; be careful not to scratch the glass.

Some Tips

- Always store ReadiView in the rugged carry case to reduce dust buildup.
- If you are bothered by specks of dirt in the field of view, clean the eyepiece, as described in the "Cleaning" section above.
- Remember to turn off the light switch at the end of your viewing session. Doing so will help preserve your batteries. Remove the batteries from the microscope if you do not plan to use ReadiView for a long period of time (a month or longer).
- If you wish to view at 160x, first view and focus at 80x. Then switch to 160x and readjust the focus.
- Daylight provides the most natural color for viewing.
- The lower 80x reveals larger areas of a specimen.
- The lighting arm can be adjusted at an angle to provide some shadow and more contrast with 3-dimensional specimens.
- Keep records of your observations (make sure you date them): Record the items you observe, their colors, shapes and patterns, how specimens compare with each other, how they look at different magnifications and so forth.
- When you walk about at home, school, work and so forth, make a point of looking for specimens to view in your microscope.
- Collect items that might help you make slides (many of items can be found around the home): Popsicle sticks, food coloring (many objects can be more easily viewed if colored), containers for mixing or storing solutions, a stirring rod, paper towels, tweezers, a notebook, etc.
- ReadiView is extremely portable—it can be taken to the specimen!

ADVANCED PRODUCTS DIVISION
Meade Instruments Corporation
World's Leading Manufacturer of Astronomical Telescopes for the Serious Amateur
6001 Oak Canyon, Irvine, California 92618 ■ (949) 451-1450
FAX: (949) 451-1460 ■ *www.meade.com*
© 2003